

# Corresponding Parts of Congruent Triangles are Congruent

A **Congruence Statement** tells us how the parts of one triangle match up with another triangle. The order of the letters is super important.

Example: Without even having a picture, if we have the statement  $\triangle ABC \cong \triangle DEF$  then we know...

$$\angle A \cong \angle D$$

$$\overline{AB} \cong \overline{DE}$$

$$\angle B \cong \angle E$$

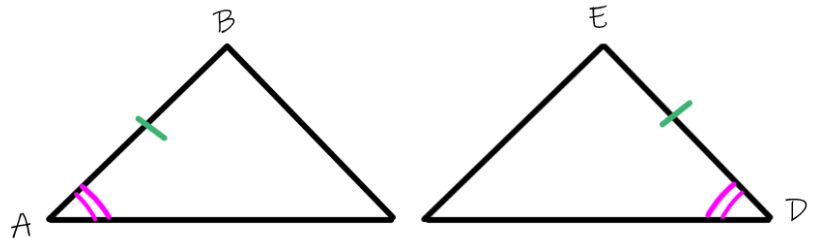
$$\overline{BC} \cong \overline{EF}$$

$$\angle C \cong \angle F$$

$$\overline{AC} \cong \overline{DF}$$

## Congruence Markings:

- In a diagram, when two angles are congruent, they will be marked with the same number of arches.
- When two side lengths are congruent, they will have the same number of tick marks.
- In the diagram to the right, the markings show that  $\angle A \cong \angle D$ , and  $\overline{AB} \cong \overline{DE}$ .



You Try! Based on the congruence statements or markings in the figure, determine the pairs of corresponding congruent angles, and corresponding congruent sides.

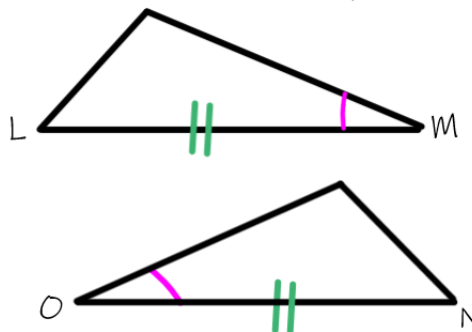
1.  $\triangle CAT \cong \triangle DOG$

$$\angle C \cong \underline{\hspace{2cm}} \quad \overline{CA} \cong \underline{\hspace{2cm}}$$

$$\angle A \cong \underline{\hspace{2cm}} \quad \overline{AT} \cong \underline{\hspace{2cm}}$$

$$\angle T \cong \underline{\hspace{2cm}} \quad \overline{TC} \cong \underline{\hspace{2cm}}$$

2. Based on the figure:



$$\angle M \cong \underline{\hspace{2cm}}$$

$$\overline{ON} \cong \underline{\hspace{2cm}}$$

You Try!

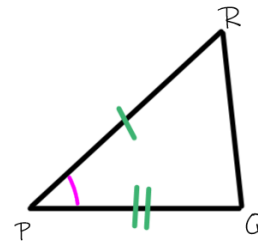
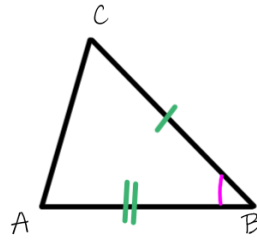
3.  $\triangle IJK \cong \triangle LMN$

$\angle I \cong$  \_\_\_\_\_  $\overline{LM} \cong$  \_\_\_\_\_

$\angle J \cong$  \_\_\_\_\_  $\overline{MN} \cong$  \_\_\_\_\_

$\angle K \cong$  \_\_\_\_\_  $\overline{LN} \cong$  \_\_\_\_\_

2. Based on the figure:



$\angle B \cong$  \_\_\_\_\_

$\overline{AB} \cong$  \_\_\_\_\_

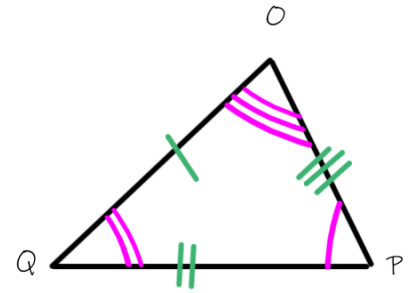
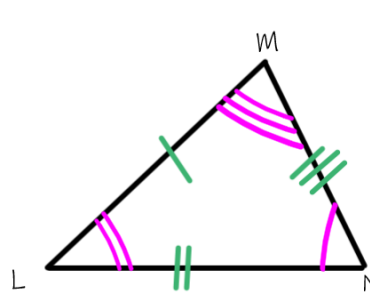
4. If  $\triangle XYZ \cong \triangle TAC$  ...

$\angle X \cong$  \_\_\_\_\_  $\overline{TA} \cong$  \_\_\_\_\_

$\angle Y \cong$  \_\_\_\_\_  $\overline{AC} \cong$  \_\_\_\_\_

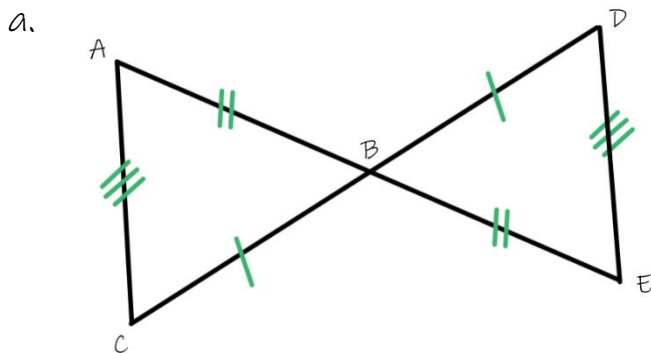
$\angle Z \cong$  \_\_\_\_\_  $\overline{TC} \cong$  \_\_\_\_\_

5. Based on the figures, write a congruence statement

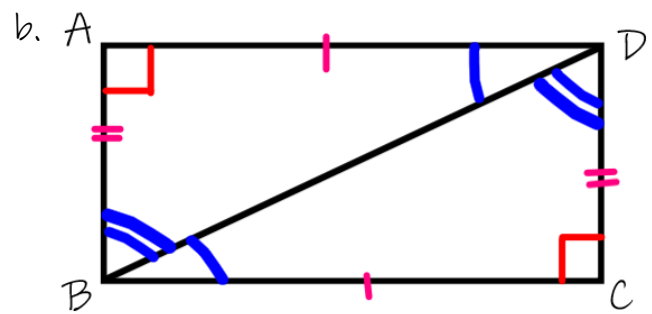


$\triangle LMN \cong$  \_\_\_\_\_

6. Based on the figures, write a congruence statement.



$\triangle ABC \cong$  \_\_\_\_\_



$\triangle ABD \cong$  \_\_\_\_\_